AMENDMENTS TO THE CLAIMS

1. (currently amended) A flexible circuit comprising:

a substrate having a topside, and a plane;

a flexible and extensible structure formed within said substrate and co-planar with said substrate, said structure having a structure topside; and

wherein said structure is ~~adapted to be extended~~ extendable out of said plane by a distance greater than a maximum lateral dimension of said structure, such that said structure topside continues to face in a general topside direction.

2. (previously presented) The flexible circuit according to Claim 1 further comprising an insulated pathway formed on said structure.

3. (original) The flexible circuit according to Claim 2, wherein said pathway is a capillary for transferring a fluid.

4. (withdrawn) The flexible circuit according to Claim 2, wherein said pathway is an electrical lead for transferring an electronic signal.

5. (withdrawn) The flexible circuit according to Claim 2, wherein said pathway is an electrical lead for transferring an electrical signal.

6. (withdrawn) The flexible circuit according to Claim 2, wherein said pathway is an optical fiber for transferring an optical signal.

7. (withdrawn) The flexible circuit according to Claim 6, wherein bending radii of said optical fiber are large enough to prevent substantial optical loss from said optical fiber.

8. (original) The flexible circuit according to Claim 1, wherein said structure is a spiral.

9. (original) The flexible circuit according to Claim 8, wherein said spiral is an Archimedes spiral.

10. (original) The flexible circuit according to Claim 8, wherein said spiral is a parabolic spiral.

11. (original) The flexible circuit according to Claim 8, wherein said spiral is a polygonal spiral.

12. (original) The flexible circuit according to Claim 11, wherein said spiral is one of a square spiral, a triangular spiral, a pentagonal spiral and a hexagonal spiral.

13. (original) The flexible circuit according to Claim 1, wherein said structure has geometric features selected from a group comprising spiral, bend, curve, twist, turn, curl, loop, u-turn and zig-zag.

14. (previously presented) The flexible circuit according to Claim 1, wherein said structure is defined by dashed perforations.

15. (original) The flexible circuit according to Claim 1, wherein said structure comprises a boss for receiving a force to extend said structure out of said plane.

16. (previously presented) The flexible circuit according to Claim 1 further comprising at least a first insulated pathway and a second insulated pathway.

17. (currently amended) A flexible circuit comprising:

a substrate having a plane;

a flexible and extensible structure formed within said substrate and co-planar with said substrate, said flexible and extensible structure includes a topside and is ~~adapted to be extended~~ extendable out of said plane by a distance greater than a maximum lateral dimension of said structure such that said topside remains facing in a general topside direction; and

an insulated pathway on said structure.

18. (previously presented) The flexible circuit according to Claim 17, wherein said insulated pathway is a capillary for transferring a fluid.

19. (withdrawn) The flexible circuit according to Claim 17, wherein said pathway is an electrical lead for transferring an electronic signal.

20. (withdrawn) The flexible circuit according to Claim 17, wherein said insulated pathway is an optical fiber for transferring an optical signal.

21. (withdrawn) The flexible circuit according to Claim 20, wherein bending radii of said optical fiber are large enough to prevent substantial optical loss from said optical fiber.

22. (original) The flexible circuit according to Claim 17, wherein said structure is a spiral.

23. (previously presented) The flexible circuit according to Claim 22, wherein said spiral is an Archimedes spiral.

24. (original) The flexible circuit according to Claim 22, wherein said spiral is a parabolic spiral.

25. (original) The flexible circuit according to Claim 22, wherein said spiral is a polygonal spiral.

26. (original) The flexible circuit according to Claim 25, wherein said spiral is one of a square spiral, a triangular spiral, a pentagonal spiral and a hexagonal spiral.

27. (original) The flexible circuit according to Claim 17, wherein said structure has geometric features selected from a group comprising spiral, bend, curve, twist, turn, curl, loop, u-turn and zig-zag.

28. (previously presented) The flexible circuit according to Claim 17, wherein said structure is defined by dashed perforations.

29. (previously presented) The flexible circuit according to Claim 17, wherein said structure comprises a boss for receiving a force to extend said structure out of said plane.

30. (previously presented) The flexible circuit according to Claim 17 further comprising a second insulated pathway on said structure.

31–36. (cancelled)

37. (currently amended) A flexible circuit comprising:

a substrate having a plane;

a flexible and extensible structure formed within said substrate and co-planar with said substrate, said structure having a top side;

a capillary for transferring fluid on said structure: and

wherein said structure is extendable ~~adapted to be extended~~ substantially perpendicular to said plane within the region defined by said plane, such that said top side remains facing in a general topside direction.

38. (previously presented) The flexible circuit according to Claim 37 further comprising an insulated pathway formed on said structure.

39. (previously presented) The flexible circuit according to Claim 37, wherein said structure is a spiral.